

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A cell for electrowinning a metal from a compound thereof dissolved in a molten salt electrolyte, the cell containing said molten salt electrolyte in which a compound of said metal is dissolved, in particular for electrowinning aluminium from dissolved alumina dissolved in the molten electrolyte, said cell comprising an anode and a cathode that contact the molten electrolyte, the cathode being during use at a cathodic potential for reducing thereon species of the metal to be produced from the dissolved compound, the electrolyte further containing species of at least one element that is liable to contaminate the product metal and that has a cathodic reduction potential which is less negative than the cathodic potential of the metal to be produced,

wherein the cell further comprises a collector for removing species of said element(s) from the electrolyte, said collector having an electrically conductive surface in contact with the molten electrolyte, the conductive collector surface being during use at a potential that is:

- less negative than the cathodic potential of the produced metal to inhibit reduction thereon of species of the metal to be produced; and
- at or more negative than the reduction potential of the species of said element(s) to allow reduction thereof on the conductive collector surface,

the cell being so arranged that species of said element(s) are reduced on the conductive collector surface rather than on the cathode so as to inhibit contamination of the product metal by said element(s).

2. (Original) The cell of claim 1, wherein the cell is arranged to promote during use an electrolyte circulation from and towards the cathode, the conductive collector surface being exposed to molten electrolyte that circulates towards the cathode and that contains the species of said element(s).

3. (Original) The cell of claim 2, wherein the conductive collector surface is positioned outside a gap spacing the anode and the cathode, the conductive surface being electrically connected to a means for applying a potential.

4. (Previously amended) The cell of claim 1, wherein the conductive collector surface is positioned between the anode and the cathode.

5. (Original) The cell of claim 4, wherein the conductive collector surface is electrically connected to a voltage source.

6. (Original) The cell of claim 4, wherein the potential of the conductive collector surface is set by its position relative to the anode and cathode.

7. (Previously amended) The cell of claim 1, comprising a means for supplying to the conductive collector surface a current for reducing species of said element(s) on the conductive collector surface during use.

8. (Previously amended) The cell of claim 1, wherein the electrolyte contains dissolved product metal and/or another metal that during use is/are oxidised on the

conductive collector surface to pass an electric charge that reduces species of said element(s) on the conductive surface.

9. (Original) The cell of claim 8 for electrowinning aluminium, wherein the electrolyte is a sodium-containing electrolyte and said other metal is sodium that is reduced from the electrolyte.
10. (Previously amended) The cell of claim 1, wherein the conductive surface of the collector is made of carbon.
11. (Previously amended) The cell of claim 1, wherein the conductive surface of the collector is metal-based, the conductive surface being at a potential below the potential of electrochemical dissolution of the metal-based surface.
12. (Currently amended) The cell of claim 1011, wherein said metal-based surface comprises at least one metal selected from titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, yttrium, zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, hafnium, tungsten, rhenium, iridium, platinum and gold, and/or a compound thereof such as an oxide or a boride.
13. (Previously amended) The cell of claim 1, wherein the species of said element(s) comprise species of at least one metal selected from nickel, iron, copper, cobalt, titanium, chromium, manganese, yttrium, cadmium, tin, antimony, gold, platinum, silver, cerium, palladium, ruthenium, tungsten, bismuth and lead.
14. (Original) The cell of claim 13, wherein the anode has a surface that comprises one or more of said metal(s) in metallic form and/or in a compound.
15. (Previously amended) The cell of claim 1, which comprises one or more carbon anodes.
16. (Previously amended) The cell of claim 1, wherein the species of said element(s) comprise species of at least one metalloid or non metal such as sulphur.
17. (Previously amended) The cell of claim 1, wherein the conductive collector surface is formed by one or more elongated members.
18. (Original) The cell of claim 17, wherein the conductive collector surface is formed by a wire, in particular a spiral.
19. (Original) The cell of claim 17, wherein the conductive collector surface is formed by one or more bars, in particular a grid.
20. (Previously amended) The cell of claim 1, wherein the collector surface is formed by a foraminate structure through which the electrolyte can circulate, in particular a structure in the form of a perforated plate, a honeycomb structure or a foam.

21. (Previously amended) A method of electrowinning a metal in a cell as defined in claim 1, comprising:
- a) setting the cathode at a cathodic potential for reducing thereon species of the metal to be produced;
 - b) setting the conductive surface of the collector at a cathodic potential that is:
 - less negative than the cathodic potential of the metal to be produced to inhibit reduction thereon of species of the metal to be produced; and
 - at or more negative than the reduction potential of the species of said element(s);
 - c) producing the metal on the cathode from the dissolved compound of the metal to be produced; and
 - d) reducing species of said element(s) on the conductive collector surface rather than on the cathode so as to inhibit contamination of the product metal by said element(s).
22. (Original) The method of claim 21, wherein the conductive collector surface is at a potential in the range from 0.5 to 1.5 V above the cathodic potential of the metal to be produced, in particular from 0.7 to 1.2 V thereabove.
23. (Original) The method of claim 22 for electrowinning a metal selected from aluminium, magnesium, titanium, manganese, sodium, potassium, lithium, zirconium, tantalum and niobium.
24. (Cancelled)
25. (Cancelled)
26. (Cancelled)
27. (Cancelled)